

Accessory Installation Practices



This document is written and maintained by Toyota Motor Sales, U.S.A., Inc. as an aid to defining accessory installation best practices.

Safety

1.1 Eye protection should be worn during any drilling and cutting, and when power tools are used to remove or attach fasteners.

Eye protection should also be used when using any special chemicals (as listed on the first page of the Installation Instruction Sheet) to reduce the risk of these chemicals entering the eye.

1.2 Rechecking of fastener tightness.

For some accessories it is necessary to recheck the tightness of the fasteners securing the accessory, for example – wheel lug nuts, running board bolts, tow hitch bolts etc. Where a recheck is required it will be noted in the Installation Instruction Sheet (either in the Procedure Section and/or the Checklist Section)

1.3 Supplemental Restraint System SRS

Any vehicle equipped with a supplemental restraint system (SRS). Failure to carry out the following procedures listed below could result in possible deployment of airbag, personal injury, or unnecessary repairs to SRS.

1.3.1 Turn the key switch to the LOCK position.

1.3.2 Remove key from ignition switch.

1.3.3 Disconnect the negative battery cable.

1.3.4 Never use a voltmeter to troubleshoot any of the harnesses or connectors to the SRS. Accidentally probing the connectors to the SRS can lead to deployment of the airbag.

1.3.5 SRS wire harness loom/cover is bright yellow in color.

1.3.6 SRS contains a battery backup system; therefore ALWAYS wait for a minimum of 90 seconds after disconnecting the battery negative cable before removal/disassembly of electrical components. (Reference TSB: EL93-001).

Vehicle Protection

2.1 Vehicle should be clean before performing any accessory installation.

2.2 Prepare grille cover, fender cover, seat cover, and floor mat cover as appropriate to the installation area on the vehicle of the accessory before starting installation. Blankets, seat covers, paper floor coverings are suitable for this purpose.

2.3 Do not place any tools on unprotected vehicle surfaces, or leave inside vehicle. Use a tool tray to keep tools separate from the vehicle surface.

2.4 It is recommended that no exposed jewelry (rings, watches etc.), zippers, buttons, rivets, belt buckles or other scratch potential objects be worn. Articles of clothing or jewelry that have the potential to come into contact with the vehicle surface (i.e., generally below the chest) and contain any of the above items should be covered with tape and/or other protective material to prevent scratching of the vehicle.

2.5 Clothing and shoes must be free of grease and dirt to maximize vehicle cleanliness.

2.6 Parts and tool trays should be used for interior installations whenever possible. Parts, tools or trays must not be placed onto unprotected, seats, carpets or trim panels.

2.7 Tools, air hoses and power cords should be free of grease and dirt.

2.8 Blanket should be used to cover engine bay while working on accessory that requires hood to be open (e.g. Hood Protector) to prevent fasteners from being dropped into engine bay.

Vehicle Disassembly/Re-assembly

Panel Removal

3.1 Many panels on the vehicle are held in place with clips. Where the location of this clip is critical it is shown on the figure(s) in the Installation Instruction Sheet. Care must be taken to remove the panel and its clip(s) without damage. Toyota recommends use of plastic (nylon) removal tools, rather than metal and two Toyota Special Service Tools are available:-

Panel Pry Tool #1 Toyota SST # 00002-06001-01

Panel Pry Tool #2 Toyota SST # 00002-06002-01

Panel Protection

3.2 Place all removed parts on a protected surface.

3.3 All work benches, tables, or platforms used for assembly or temporary storage of parts should be carpeted or suitably covered to provide a soft, non-abrasive surface.

Parts Container

3.4 Use a small parts container to keep removed bolts and tapping screws so that they can be reassembled correctly.

Electrical Component Disassembly/Reassembly

Battery Cable

4.1 Unless otherwise stated battery negative terminal must be disconnected and isolated before performing work on any electrical components (i.e. connecting or disconnecting any

electrical connectors, etc.). In some installations fuse removal is used instead of battery terminal disconnection, and will be referred to in the Installation Instruction Sheet.

4.2 Ignition key must be removed from the ignition switch when the negative battery terminal or appropriate fuse is disconnected/removed and reconnected/reinstalled.

4.3 Do not touch the positive terminal with any tool when removing the negative battery cable.

4.4 Use a fender cover (blanket) when connecting or disconnecting battery negative terminal and/or when replacing or removing fuses. Ensure battery negative terminal is fully seated when reconnecting.

4.5 Power tools that can exceed 60 pound force-inch of torque should not be used to tighten battery cable. The torque value for battery cable tightening is given in the Installation Instruction Sheet.

Connectors

4.4. When disconnecting connectors, do not pull on the wires; pull on the connectors.

4.5. DO NOT pull on vehicle wires and/or wire harnesses. To uncouple electrical connectors, pull only on the connector itself and release the connector securing tab (identified in the Installation Instruction Sheet).

4.6. Disconnected wires must not have any strain on connectors or wires (i.e., do not allow components hanging from a wire harness).

4.7. When reconnecting connectors, ensure connectors are securely snapped together and wires are not twisted or kinked.

Wire Harnesses

4.8. When installing the accessories that use wire harnesses (e.g. audio, alarm, trailer wire harness...), make sure the harness is not cut or perforated by any sharp metal objects/edges.

Wire Ties

4.9. When using wire ties to secure harness, clip the wire ties after securing them.

4.10. Ensure that wire routing does not interfere with movement of mechanical components before tightening the wire tie.

Functional Checks

4.11. Functional checks (from the Checklist Section of the Installation Instruction Sheet) must be performed on all disconnected electrical components.

Use of Special Chemicals

Cleaners

5.1 All cloths used for preparatory installations must be cleaned and periodically changed. Any cloth that is dropped on the floor should not be used until cleaned.

5.2. Cleaning solutions/solvents are identified in the Installation Instruction Sheet and are not to be sprayed directly onto vehicle surfaces (interior/exterior).

5.3. Cleaning solutions/solvents are not to be sprayed onto cloth/rag inside of vehicle (this is to prevent over spray on interior).

5.4. When using cleaners such as Prep-Solvent-70, or Household Windex follow manufacturer's recommendations:-

5.4.1 Always use a clean (lint free scratch resistant) soft cloth (or wipe), and clean a small area at a time (~ 3 ft. x 3 ft. max.).

5.4.2 Shake well.

5.4.3 Apply cleaner to cloth or wipe. Do not spray cleaning solution directly on any vehicle surfaces.

5.4.4 Clean surface thoroughly and wipe dry immediately with a new clean cloth. Do not allow cleaner to air dry.

Sealers

5.5 Follow Installation Instruction Sheet recommendations.

5.6 For any cleanup follow sealer manufacturer recommendations.

Temperature

6.1. Some accessories require installation in a controlled temperature environment. The installation instructions will provide the temperature range of this temperature and will differentiate between vehicle and accessory temperature (should it not be the same for both.)

6.2. The installation location will be responsible for determining whether the temperature range has been met.

6.3. The method of temperature measurement will NOT be called out in the instructions.

6.4. Recommended tools for measuring vehicle and accessory temperature are:-
Non-Intrusive IR Temperature Probe/Gun

6.5. Recommended heating/cooling methods are:-
Heat box (for small components), Car HVAC, Heat Gun....

Torque Recheck

7.1. When rechecking of a fastener torque is called out in the Installation Instruction Sheet it is sufficient to ensure that the fastener does not rotate when the installation torque is reapplied. If the fastener rotates then continue tightening until the specified torque is reached. Do not loosen fastener.